RETIREMENT PLANS
UNFUNDED LIABILITIES

ISSUES, LAWS, AND COST FACTORS

A Report Prepared for the
Legislative Finance Committee

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September 23, 2005

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INTRODUCTION

The purpose of this report is to provide the Legislative Finance Committee with background information regarding the "unfunded liabilities" of the state pension plans. This report will touch upon some of the more basic components of this issue, first describing what the issue is, listing key legal cites that must be kept in mind, and explaining cost factors that the legislature needs to understand in addressing the issues surrounding the "unfunded liability". Whether or not this committee chooses to recommend an approach or strategy for solving this problem, it is important to understand the retirement system fiscal issues for deliberations in the potential special session and in future regular sessions. The very nature of retirement systems suggests that the fiscal and policy issues surrounding them must be considered in the long-term as well as the short-term. The sheer size of the retirement systems, combined with the principles applied in the management of the systems, makes the issues seem complex. When a severe dip in investment returns occurs, the results are dramatic. With more than $6.5 billion in assets, a one percent change is valued at $65 million. In the period of 2001 to 2003, the shrinking values of equity markets and reduced interest earnings cost the Montana retirement systems million of dollars in losses, when compared to actuarial projections of the amount needed to meet benefit obligations in the future. This report will also provide some options that the legislature can consider as well as the ramifications of those options.

ISSUES FACING THE LEGISLATURE

UNFUNDED LIABILITY OF PERS, TRS, SRS, GWPORS

The issue before the legislature at this point in time includes the following retirement systems:

PERS – Public Employees Retirement System
TRS – Teacher Retirement System
SRS – Sheriffs' Retirement System
GWPORS – Game Wardens' and Peace Officers' Retirement System

An "unfunded liability" refers to the excess of a retirement plan's *actuarial liability* over the *actuarial value of assets*. *Actuarial liability* is the amount that the retirement system expects to pay out over the long-term. *Actuarial value of assets* is the amount that the retirement system expects to have available to pay retirement obligations over the long-term. Both components of the equation are based upon many assumptions. A list of assumptions used in the PERS valuation, as an example, is Attachment A.

Unfunded liabilities are reported for retirement systems other than the four listed above, but the amortization period for those other systems is less than 30 years as required in statute. In simpler terms, this means that the actuarial unfunded liability for the other systems is calculated to theoretically disappear in less than 30 years. The four retirement systems listed above, on the other hand, have actuarial unfunded liabilities that are not amortized in less than 30 years, as Montana statute requires for the retirement plan to be actuarial sound.

How much is the liability?

Based on the actuarial valuations prepared as of June 30, 2004, the total unfunded liability for the four systems was estimated at $1.2 billion. Broken out by retirement plan, the unfunded liabilities are as follows:

PERS - $466.8 million
SRS - $8 million
GWPORS - $5 million
TRS - $757.8 million

Although these valuations are prepared biennially by statute, valuations are currently being prepared to update the information to June 30, 2005. The updated valuations are expected to be available before the Legislative Finance Committee meets on October 6th and 7th, so the new numbers will hopefully be available at that time. The unfunded liability is expected to increase for the TRS, primarily because of known losses that were not recognized at the time of the last actuarial valuation.

Where did the unfunded liability come from?

Investment losses are the primary reason for the current unfunded liability problem. In the period of 2001 through 2003, those returns were much lower than projected, and in two of the three years were negative. The drop in value of the equity market (stocks) is the major culprit.

To the degree that reported actuarial surpluses were used up by the passage of benefit enhancement legislation, the retirement benefit increases have contributed to the present situation.

It should be pointed out that investment gains, contribution rate increases, and reamortization of unfunded liabilities have historically been used by the legislatures all across the country to fund benefit enhancements. Montana is not alone in funding benefits using the enhanced market values, nor is it alone in having experienced significant investment losses. We are also not the only state seeking solutions to actuarially fund our public pension plans.

The "perfect storm" explanation

In a September 9th presentation to the State Administration and Veterans Affairs (SAVA) Interim Committee, Carroll South of the Board of Investments provided an explanation in this way. He likened the events to the "perfect storm" as portrayed in the motion picture of the same name. In much the same way that the adverse weather condition came together in the movie, a group of circumstances contributed to the unfunded liability situation. He listed them in this way:

- The legislature increases benefits
- Capital markets decrease asset bases
- Markets are beyond legislative control
- Markets are unpredictable and volatile
- Asset bases cannot be increased
- Benefits cannot be decreased
- Investment returns cannot fix the problem

Again, the primary contributor to the situation was the decrease in the asset base caused by the drop in the value of the equity investments held on behalf of the retirement plans.

OTHER POLICY CONCERNS

HJR 42 STUDY

The State Administration and Veterans Affairs Interim Committee has been assigned the charge approved by the legislature in HJR 42 in the 2005 session. HJR 42 provided the following:

> *That the Legislative Council be requested to designate an appropriate interim committee, pursuant to section 5-5-217, MCA, or direct sufficient staff resources to:*
>
> *(1) review constitutional and statutory language governing how public employee retirement plan funds are managed and invested;*
>
> *(2) study the investment strategies, objectives, and asset allocation of public employee retirement funds managed by the Board of Investments;*
>
> *(3) compare the asset allocation, investment performance, and actuarial assumptions regarding Montana's public employee retirement plan funds with asset allocation, investment performance, and actuarial assumptions used in other states;*
>
> *(4) study how investments or asset allocation strategies are adjusted by the Board of Investments either in anticipation of changing needs or changing market conditions or after significant national and world events affect the market;*
>
> *(5) study actual rates of return versus actuarial gains and losses in market value and how actuarially assumed rates of return adopted by the retirement boards relate to realized returns and the investment objectives set by the Board of Investments;*
>
> *(6) examine how investments, retirement benefits, and legislative policy decisions interact to affect the actuarial soundness of the public employee retirement plans and employer funding obligations; and*
>
> *(7) identify legislative policy issues and concerns, consider options, and develop recommendations.*

Within the context of this study the SAVA committee intends to develop recommendations to address the "unfunded liability" problem, with some recommendation available for the proposed special session.

FISCAL NOTES ON RETIREMENT BILLS

In presentations and discussion during the SAVA committee meeting on September 9, 2005, there was a concern expressed regarding fiscal notes prepared for retirement legislation. The issue is that the structure of the fiscal note does not lend itself to an accurate and complete representation of potential fiscal impact of the legislation. There appears to be considerable interest in addressing this concern and developing a fiscal note format that better addresses the unique characteristics and long-term impacts of such bills.

APPLICABLE LAWS

CONSTITUTION

Article VIII, Section 15 provides that "Public retirement systems shall be funded on an actuarially sound basis". This constitutional requirement drives the need for the state to address the issue of an unfunded liability, to insure that funds are available in the future to meet the obligations of future benefits as determined by actuarial valuations of the retirement systems.

Article II, Section 31 provides that "No ex post facto law nor any law impairing the obligations of contracts…shall be passed by the legislature". This constitutional provision is what has been applied in case law in Montana and in other states to say that, as to current employees and retirees, the legislature cannot take pension benefits away that have been previously authorized for them.

STATUTES

Statutes related to retirement systems are contained in Title 19, MCA. These statutes govern several retirement plans in several chapters of code, and are too many to summarize here. Attachment B provides a summary of the various plans in a format that allows for comparisons between plans.

LEGAL CONSTRAINTS ON SOLVING THE FISCAL PROBLEM

One option that is not apparently available to the legislature is that of reducing benefits of existing public employees and retirees. From case law, the conclusion is that the level of benefits authorized in law for public employees and retirees covered by that law is a component of their employment "contract" and the legislature cannot pass a law that takes a previously granted benefit away. This apparently does not apply to employees that have not been hired yet, as an "employment contract" has not been entered into yet.

Similarly, the idea of increasing the contribution by the employee without a corresponding benefit increase is also apparently not an option. There are no Montana cases on this subject but it has been so held in other states' courts. There is no problem with increasing the contribution of the employer.

COST FACTORS

VALUE OF THE "UNFUNDED LIABILITY"

Based on the actuarial valuations for the period ending June 30, 2004, the unfunded liability for the four retirement funds that are identified as having the problem is about $1.2 billion. This is an actuarial unfunded liability, based upon certain assumptions. An infusion of about half that amount, or about $500 to $600 million into the retirement plans today, would be needed to totally fix the problem at this point in time. It would actuarially bring the amortization of the unfunded liability into the 30-year window.

ACTUARIAL ASSUMPTIONS

As stated earlier, an example of retirement plan assumptions used in actuarial valuations is in Attachment A. It is important to point out that assumptions are indeed assumptions, and assumptions can change with time. Any assumption can change. And no assumption is more at risk of volatility than that of investment return. While the retirement plan boards have approved an assumption of an 8 percent return on investments over the long haul, actual returns over the past five years have failed to realize anything close to 8 percent. Over the past five years (2001 to 2005), the rates of return for PERS have been a negative 5.04 percent, a negative 7.23 percent, and a positive 6.61 percent, 13.42 percent, and 8.13 percent in that last three years. At the September SAVA committee meeting, Investment Division director Carroll South indicated that the return on investment for 2006 through 2008 would have to be 17 percent per year to reach an eight year average of 8 percent over the eight year period. He also indicated that the legislature should not assume investment returns would solve the unfunded liability problem.

It is also noted that the Teachers Retirement Board approved a 7.75 percent investment return assumption effective July 1, 2004.

Other assumptions should be considered also. Variations occur for one reason or another. When a person retires affects the ultimate payout that the retirement plan will experience. Retirement incentives that are sometimes offered are one example. Attachment C is a list of items that are further examples of "what puts stress on retirement systems". These are long-term considerations.

According to David Senn of the Teachers Retirement System, "Because assumptions can and do vary from experience, both the TRS Board and the PERS Board periodically compare actual experience with the actuarial assumptions. If there are differences, minor corrections are made to the assumptions to bring them in line with experience. All assumptions and any changes recommended by the actuary are governed by professional standards established by the Actuarial Standards Board."

PAYROLL OF PUBLIC EMPLOYEES

If increases in employer contributions are part of the solution, then the payroll for the public employees is a cost factor. Annualized payroll (2004) for each plan is listed below, along with the estimated amount of contributions that is generated from an additional 1 percent added to the retirement rate:

PERS	$832.8 million	1 Percent = $8.3 million
SRS	$27.4 million	1 percent = $274,000
GWPORS	$21.4 million	1 percent = $214,000
TRS	$576.4 million	1 percent = $5.8 million

The total payroll for these four retirement plans is $1.455 billion, one percent of which yields $14.55 million. Remember that with wage growth each year, the amount of payroll will increase annually. Attachment A shows an assumption of 4.25 percent for general wage increases.

FISCAL CONSTRAINTS ON SOLVING THE FISCAL PROBLEM

One fiscal restraint relates to the size (in dollars) of the problem…$1.2 billion is certainly a very significant amount and, based upon funds available, cannot likely be solved by just an infusion of cash in the retirement plans, even with a large portion of the amount being funded by investment returns on the amount of cash added to those retirement plans.

A second restraint is the volatility of the investment returns…the legislature cannot assume that investment returns will solve the problem.

And third, the market has not yet recovered. The Investment Division director indicates that the market is still over 20 percent below where it was before the stock market slide began.

OPTIONS AVAILABLE TO THE LEGISLATURE

WHAT DOES THE LEGISLATURE NEED TO DO OR HAVE TO DO?

There seems to be a consensus that the legislature needs to do something to resolve the problem. For the four retirement plans, having unfunded liabilities that violate the constitutional requirement that the plans be "actuarially sound" can have other impacts. If allowed to continue, this situation will get worse and will be more costly to fix. Public employee retirement benefits are put at risk. An adverse statewide audit finding will occur and bond ratings can be adversely affected.

The following are some options that are available to the legislature. Most if not all have been discussed previously. None of the options listed are mutually exclusive and some or all of the options can be combined in crafting a solution.

Cash Infusion

Option: Proposals have been suggested that a portion of the projected general fund surplus be used to partially address the unfunded liability of the retirement plans. While the use of the surplus in this way is appropriate, especially any portion that is from one-time sources of revenue, this source is purely general fund money. The advantage of this approach is that a significant increase in the asset base results in increased investment return and directly reduces the unfunded liability. However, this approach does not include other funds in addressing the problem. Therefore, are there other funds (state special revenue) from which an appropriation for this purpose might be made? It is not expected that a cash infusion of federal funds into the retirement plans would be possible.

Option: Another way to achieve a cash infusion for the retirement plans is through pension bonds. The Investment Division director does not recommend this option. The only way it works is if the investment returns on the proceeds of the bonds exceed the interest paid by the state on the bonds. This is considered risky given that the volatility of the investment returns is what got the retirement plans into the current situation.

Increase Employer Contribution

Option: Increasing the employer contribution increases the flow of funds into the retirement fund. It provides a flow of funds that, along with investment returns, will chip away at the unfunded liability. Proposals including this option would need to be designed to ensure that the amortization period for the unfunded liability is within the 30 years required by statute. Because the employer contribution is a product of a percent of payroll, and payroll is funded for various state and federal funds, this proposal accesses general fund, state special, federal funds, and local government funding sources in solving the problem. In addition, investment income is freed up to increase the assets of the retirement plans.

Decrease Benefits for Future Employees

Option: Although decreasing benefits for current employees is not an option, decreasing benefits for future employees apparently is an option. Based upon the demographics of the public workforce, this might be a reasonable fiscal solution, but it might have other ramification, both in the fairness to new employees and in future recruitment and retention of public employees.

Options Developed by the TRS Board

Attachment D is a list of proposals that the Teachers Retirement Board has developed for consideration. They include some of the options stated above and add proposals that, for example, “close loopholes” that add costs to the plan.

Table A-1

Summary of Valuation Assumptions
(July 1, 2004)

I.	Economic assumptions	
	A. General wage increases	4.25%
	B. Investment return	8.00%
	C. Interest on member accounts	5.00%
II.	Demographic assumptions	
	A Individual salary increase due to promotion and longevity	Table A-2
	B. Retirement	Table A-3
	C. Disablement	Table A-4
	D. Mortality among contributing members, service retired members, and beneficiaries 1994 Uninsured Pensioner Mortality Table, with ages set back 1 year for males and ages set back 1 year for females	Table A-5
	E. Mortality among disabled members Based on the IRS Social Security Disabled Mortality Tables published in Revenue Ruling 96-7 for pre-1995 disabilities with ages set back 3 years for males and set forward 1 year for females.	Table A-5
	F. Other terminations of employment	Table A-6
	G. Probability of retaining membership in the System upon vested termination	Table A-7

AUGUST 2005
NOTE TO USERS OF ATTACHED CHART
FROM: JOHN MACMASTER

The attached chart is maintained, and up-dated after each regular session of the legislature, by the Montana Public Employee Retirement Administration (MPERA). Most of the items in the left-hand column are based on data compiled by the MPERA. This is the 2003 version. The MPERA will complete its work in up-dating the chart for the 2005 version sometime in the fall of 2005. To the extent that items in the left-hand column are determined by statute, rather than by data compiled by the MPERA, I have reviewed the 2005 legislation, attempted to identify necessary changes, and hand-written the changes onto the chart. There are not many of them. The changes are hand-written onto the chart to help distinguish THIS chart from the current 2003 version, and upcoming 2005 version, published by the MPERA.

Montana's Public Employees' Retirement Plans: Summary Tables

TABLE 1
BENEFIT ELIGIBILITY AND BASIC BENEFIT FORMULA

	PERS DEFINED BENEFIT (DB) PLAN	TEACHERS' RETIREMENT SYSTEM (TRS)	SHERIFFS' (SRS)	MUNICIPAL POLICE (MPORS)	FIREFIGHTERS' UNIFIED (FURS)	HIGHWAY PATROL (HPORS)	GAME WARDENS' AND PEACE OFFICERS' (GWPORS)	JUDGES' (JRS)
Minimum service and age requirements to receive full (unreduced) normal retirement benefit	30 yrs service, any age or 5 yrs srvc and age 60 or age 65 regardless of service	25 yrs service, any age or 5 yrs srvc and age 60	20 yrs service, any age	20 yrs service, any age	20 yrs service, any age, or age 50 with 10 yrs service	20 yrs service, any age	20 yrs service and age 50 or age 55 with 5 yrs	5 yrs service and age 60
Minimum service requirement before being vested	5 years	5 years	5 years	5 years	5 years	5 years	5 years	5 years
Service retirement benefit formula	1/56 x HAC[1] x yrs of service (1/56 = 1.78571%) -with 25 or more years of membership service 1/50 X HAC X yrs of service (1/50 = 2.0%)	1/60 x FAS x yrs of service (1/60 = 1.6666%)	2.5% x HAC x yrs of service	2.5% x FAC[2] x yrs of service Pre-7/1/77: FAC = monthly compensation of last year	2.5% x FAC x yrs of service Pre-7/1/81 who did not elect GABA: *- with less than 20 yrs, greater of:* 2.5% x FAC x yrs or 2% x FMC[3] x yrs *- with more than 20 yrs:* 50% x FMC plus 2% of FMC for each year over 20	2.5% x HAC x years of service	2.5% x HAC x years of service	3.33% x HAC x yrs of service to 15 yrs + 1.785% x HAC x years of service over 15 yrs Pre 7/1/97: HAC = current salary Post 1/7/97 and those who elected GABA: HAC = highest 36 months
Benefit formula is actuarially reduced for early retirement	Yes Actuarially reduced benefit at 25 years service any age or age 50	Yes Actuarially reduced benefit at as early as age 50 with 5 yrs service	Yes Actuarially reduced benefit at age 50 with 5 yrs service	No	No	No	No	Yes: Actuarially reduced benefit at any age with 5 yrs service, if involuntarily terminated

Source: Title 19, Montana Code Annotated, 2003

[1] HAC = highest average compensation = average compensation of the 3 highest consecutive years of service.
[2] FAC = final average compensation = average salary over the last 36 consecutive months of service.
[3] FMC = final monthly compensation = monthly salary last received by member.
GABA = An automatic annual Guaranteed Annual Benefit Adjustment, an increase in a recipient's monthly benefit amount.

4 HMC = highest monthly compensation

TABLE 2

DISABILITY BENEFITS

	PERS DEFINED BENEFIT PLAN	TEACHERS' RETIREMENT SYSTEM (TRS)	SHERIFFS' (SRS)	MUNICIPAL POLICE (MPORS)	FIREFIGHTERS' UNIFIED (FURS)	HIGHWAY PATROL (HPORS)	GAME WARDENS' AND PEACE OFFICERS' (GWPORS)	JUDGES' (JRS)
Eligibility criteria for disability benefit	- at least 5 yrs of service - totally unable to perform essential tasks of covered position - permanent or of uncertain duration	-at least 5 yrs of service -incapacitated for the further performance of duties -likely to be permanent	same as in PERS DB plan	same as in PERS DB plan	same as in PERS DB plan	same as in PERS DB plan	same as in PERS DB plan	same as in PERS DB plan
Non-duty-related disability benefit	Pre-2/24/91: greater of 90% of normal (1.786%) formula, or 25% of HAC Post-2/24/91 or election: normal retirement formula (based on age 60, no actuarial reduction)	Greater of: - normal (1.6667%) retirement formula or - 25% of Avg. Final Compensation (same as HAC)	Actuarial equivalent of normal (2.5%) retirement formula	Pre-7/1/77: Normal (2.5%) retirement formula, but minimum of 50% of FMC Post-7/1/77: Normal (2.5%) retirement formula but minimum of 50% of FAC	Normal (2.5%) retirement formula but minimum of 50% of ~~FAC~~ HAC	Actuarial equivalent of normal (2.5%) retirement formula	Actuarial equivalent of normal (2.0%) retirement formula	Actuarial equivalent of normal retirement formula (3.33% for first 15 yrs service and 1.785% after 15 years)
Duty-related disability benefit	Same as non-duty related	Same as non-duty-related	Normal (2.5%) retirement formula, but minimum of 50% of HAC	Same as non-duty-related	Same as non-duty-related	Normal (2.5%) retirement formula, but minimum of 50% of HAC	50% of HAC with at least 5 yrs of service	Non-GABA: 50% of current salary of sitting judge With GABA: 50% of HAC
Actuarial cost to plan (reported in June 30, 2004, actuarial valuation)	0.32%	0.15%	0.78%	1.66%	1.98%	0.77%	0.71%	0.68%

TABLE 3

RETIREE AND BENEFIT RECIPIENT DATA

(Based on June 30, 2004, Actuarial Valuations)

	PERS DEFINED BENEFIT (DB) PLAN	TEACHERS' RETIREMENT SYSTEM (TRS)	SHERIFFS' (SRS)	MUNICIPAL POLICE (MPORS)	FIREFIGHTERS' UNIFIED (FURS)	HIGHWAY PATROL (HPORS)	GAME WARDENS' AND PEACE OFFICERS' (GWPORS)	JUDGES' (JRS)
Number of benefit recipients	14,834	10,375	323	571	498	274	85	50
Average age of current retirees	72.1 yrs	69.1 yrs	61.4 yrs	65.5 yrs	67.1 yrs	66.4 yrs	70.4 yrs	78.6 yrs
Average retirement age	59.8 yrs	56.7 yrs	52.8 yrs	47.4 yrs	50.7 yrs	49.9 yrs	55.2 yrs	67.4 yrs
Average years of service at retirement	18.9 yrs	26 yrs	18.9 yrs	19.6 yrs	23.4 yrs	24.0 yrs	26.0 yrs	15.8 yrs
Average monthly benefit (service retirement)	$793	$1,283	$1,522	$1,776	$1,913	$1,787	$1,666	$2,946
Post-retirement benefit adjustments	3.0% GABA* (after 1 years)	1.5% (after 3 year)	3.0% (after 1 years)	Pre-7/1/97 who did not elect GABA: ½ monthly salary of new officer All post- 7/1/97 or who elected GABA: 3.0% (after 1 year)	Pre-7/1/97 who did not elect GABA: ½ monthly salary of new firefighter All post- 7/1/97 or who elected GABA: 3.0% (after 1 year)	Pre-7/1/97 who did not elect GABA: 2% of base salary of probationary officer All post- 7/1/97 or who elected GABA: 3.0% (after 1 year) Pre-7/1/91: supplemental lump sum to certain eligible recipients, paid from motor vehicle registration fees	3.0% (after 1 year)	Pre-7/1/97: benefits increased same as salary of sitting judge All post-7/1/97 or who elected GABA: 3.0% GABA (after 1 year)
Social security coverage	Yes	Yes	Yes	No	No	No	Yes	Yes

* GABA = An automatic annual Guaranteed Annual Benefit Adjustment, or increase in a recipient's monthly benefit amount.

TABLE 4

ACTIVE MEMBERSHIP DATA

(NOT including retirees and other benefit recipients)

(Based on June 30, 2004, Actuarial Valuations)

	PERS DEFINED BENEFIT (DB) PLAN	TEACHERS' RETIREMENT SYSTEM (TRS)	SHERIFFS' (SRS)	MUNICIPAL POLICE (MPORS)	FIREFIGHTERS' UNIFIED (FURS)	HIGHWAY PATROL (HPORS)	GAME WARDENS' AND PEACE OFFICERS' (GWPORS)	JUDGES' (JRS)
Total active members	28,201	17,614	662	603	438	194	685	50
Deferred Retirement Option Plan (DROP)	n/a	n/a	n/a	31	n/a	n/a	n/a	n/a
Average age of actives	47.3 yrs	45.6 yrs	41.0 yrs	38.3 yrs	40.3 yrs	39.2 yrs	39.8 yrs	54.8 yrs
Average years of service of actives	9.8 yrs	12.2 yrs	8.8 yrs	9.9 yrs	12.4 yrs	9.7 yrs	5.4 yrs	9.5 yrs
Average annual salary of actives	$29,487	$40,537	$40,408	$40,371	$44,063	$38,669	$31,023	$88,770
Number of participating employers	526	411	56	22	15	1	8	1
Employers' annualized payroll (2004 Valuation)	$632.8 million	$576.4 million	$27.4 million	$24.5 million	$20.2 million	$7.8 million	$21.4 million	$4.4 million

TABLE 5

CONTRIBUTIONS, COSTS, AND ACTUARIAL DATA

(Based on June 30, 2004, Actuarial Valuations)

	PERS DEFINED BENEFIT (DB) PLAN	TEACHERS' RETIREMENT SYSTEM (TRS)	SHERIFFS' (SRS)	MUNICIPAL POLICE (MPORS)	FIREFIGHTERS' UNIFIED (FURS)	HIGHWAY PATROL (HPORS)	GAME WARDENS' AND PEACE OFFICERS' (GWPORS)	JUDGES' (JRS)
Employer contribution as percentage of payroll	6.9% Political subdivisions: 6.8% State: 0.1% (to fund GABA)	7.47%	9.535%	14.41%	14.36%	26.15%	9.0%	25.81%
Employee contribution as percentage of salary	6.9%	7.15%	9.245%	*Non-GABA:* Pre-7/1/75: 5.8% Pre-7/1/79: 7.0% Pre-7/1/97: 8.5% *With GABA:* 9%	Pre-7/1/97 not electing GABA: 9.5% Post-7/1/97 and electing GABA: 10.7%	Pre-7/1/97 not electing GABA: 9.0% Post-7/1/97 and electing GABA: 9.05%	10.56%	7%
Additional funding from other sources as a percentage of payroll	None	State General Fund: 0.11%[1] For ORP: 4.04%	None	State General Fund: 29.37%	State General Fund: 32.61%	Driver's license fees: 10.18%	None	None
Total available contributions as percentage of payroll	13.80%	14.73%	18.78%	52.78%	57.65%	45.38%	19.56%	32.81%
Normal costs as percentage of payroll	12.08%	10.34%	19.44%	25.77%	26.12%	22.09%	18.54%	26.33%
Percentage used to fund unfunded liabilities	1.68% (.04% transferred to education fund)	4.39%	0	27.01%	31.53%	23.29%	1.02%	6.48%

(TABLE 5 continued on next page)

[1] This amount was enacted by the 1999 Legislature as part of the funding for the current 1.5% GABA. This is ... 10 years or less based on the most ...

	PERS DEFINED BENEFIT (DB) PLAN	TEACHERS' RETIREMENT SYSTEM (TRS)	SHERIFFS' (SRS)	MUNICIPAL POLICE (MPORS)	FIREFIGHTERS' UNIFIED (FURS)	HIGHWAY PATROL (HPORS)	GAME WARDENS' AND PEACE OFFICERS' (GWPORS)	JUDGES' (JRS)
Actuarial value of assets (rounded)	$3.0 billion	$2.5 billion	$141 million	$150 million	$142 million	$79 million	$45 million	$45 million
Actuarial liabilities (rounded)	$3.5 billion	$3.3 billion	$149 million	$260 million	$228 million	$104 million	$50 million	$35 million
Actuarial Value Funded ratio (rounded) (percentage of liabilities covered by reported assets)	87%	76%	95%	57%	62%	76%	90%	130%
Unfunded liability (surplus) (rounded)	$466.8 million	$757.8 million	$8 million	$110 million	$86 million	$25 million	$5 million	($10 million)
Years to amortize unfunded liability	>30 yrs	>30 yrs	>30 yrs	24.4 yrs	18.7 yrs	19.1yrs	>30 yrs	0 (surplus)
Market value of assets (rounded)	$3.0 billion	$2.2 billion	$141 million	$148 million	$141 million	$79 million	$45 million	$45 million
Market Value Funded ratio (rounded) (percentage of liabilities covered by reported assets)	86%	73%	95%	57%	62%	76%	90%	129%
Contribution rate increase required to amortize unfunded liabilities over 30 years	1.19%	2.87%	2.15%	0	0	0	0.23%	0

Sources: June 30, 2004, Actuarial Valuations

TABLE 6

INVESTMENT DATA

* Investment objective: Achieve a total rate of return that exceeds the CPI by 3% over any five-year rolling period, while outperforming the market indices for each asset class over any current 5-year peri

* CPI: Percentage change in the CPI in Fiscal Year 2004, 3.0%

	PERS DEFINED BENEFIT RETIREMENT PLAN (DBRP)	TEACHERS' RETIREMENT SYSTEM (TRS)	SHERIFFS' (SRS)	MUNICIPAL POLICE (MPORS)	FIREFIGHTERS' UNIFIED (FURS)	HIGHWAY PATROL (HPORS)	GAME WARDENS' AND PEACE OFFICERS' (GWPORS)	JUDGES' (JRS)
Amount invested, rounded (market value, on June 30, 2004)	$3.0 billion	$2.4 billion	$140 million	$141 million	$134 million	$78 million	$45 million	$45 million
Market rate of return for composite index, FY 2004	13.39%	13.47%	13.16%	12.81%	12.80%	13.16%	13.18%	13.14%
Market rate of return on the fund in 2004, all assets	13.43%	13.51%	13.24%	12.85%	12.93%	13.25%	13.22%	13.21%
Market rate of return for composite index, 5-year period	2.77%	2.70%	2.57%	2.56%	2.49%	2.59%	2.62%	2.66%
Rate of return on the fund, 5-year period	2.84%	2.84%	2.68%	2.67%	2.62%	2.66%	2.72%	2.70%
Objective relative to CPI met?	no	no	no	no	no	no	no	no
Asset allocation objectives: Fixed Income / Equity	32% to 50% / 50% to 68%	30% to 45% / 55% to 70%	24% to 43% / 57% to 76%	same as Sheriffs	same as Sheriffs	same as Sheriffs	same as Sheriffs	same as Sheriffs
Actual Asset allocation: Fixed Income	43.06%	31%	42.72%	42.30%	42.04%	41.63%	44.90%	42.81%
Equity	56.94%	69%	57.28%	57.70%	57.96%	58.37%	55.10%	57.19%
Percentage growth in total liabilities between 2002 valuation and 2004 valuation	35.38%	12.72%	36.47%	25.24%	21.94%	24.16%	63.49%	12.05%
Percentage growth in total assets between 2002 valuation and 2004 valuation	8.21%	14.42%	9.7%	10.64%	10.45%	5.04%	17.48%	6.95%

Sources: Public Employees' Retirement Board, Teachers' Retirement Board, Financial and Actuarial Reports, and Title 19, Montana Code Annotated, 2003; the 2004 Annual Report of the Montana Board of Investments; the U.S. Census Bureau, Statistical Abstract of the United States.

TABLE 7

VOLUNTEER FIREFIGHTERS' COMPENSATION ACT

(Based on June 30, 2004, Actuarial Valuation)

PENSION PLAN FEATURES		VOLUNTEER FIREFIGHTERS' PENSION FUND
Minimum service and age for normal (unreduced) retirement		Age 55 and 20 years of service; or Age 60 and 10 years of service
Vested		10 years
Basic benefit formula		$7.50 per year of service, up to maximum of $150 per month
Disability		$7.50 per year of service, with a minimum of $75 per month up to a maximum of $150 per month
Death benefit		$7.50 per year of service
Membership		944 retirees and beneficiaries 2,687 active members 671 vested inactive (terminated) members 4,177 total members
Average age of members	Active	44 years old
	Retired	70 years old
Average years of service of members	Active	9 years
	Retired	23 years
Average benefit for service retirees		$129 per month
Contributions		5% of insurance premium taxes collected (See Section 19-17-301, MCA)
Actuarial liabilities		$26.8 million
Actuarial value of assets		$19.3 million
Unfunded liability		$7.5 million
Years to Amortize		21yrs
Funded ratio		72%

TABLE 8

PERS DEFINED CONTRIBUTION RETIREMENT PLAN (DCRP)

Operational July 1, 2002.

Membership	All active PERS members will have 12 months to make a one-time, irrevocable choice between the DBRP and DCRP plans.
Employee Contributions	6.9% of salary
Employer Contributions	6.9% of salary allocated as follows: -- 0.4% to an educational fund -- 2.37% to PERS DB plan as plan choice rate -- 4.49% to member accounts
Total contributions to member accounts	11.39% of salary
investment choices	16 funds
Vesting	5 years for employer contributions and investment earnings on those contributions, but members have immediate control over how employer and employee contributions are invested
Benefits	Contributions plus investment earnings, minus administrative expenses; payable at any time after termination, with a federal tax penalty for withdrawal before age 59 1/2.
Disability benefit	A defined disability benefit based on a 1/56 x FAS x years of service formula, similar to what is provided in the PERS DBRP.
Death/survivorship benefit	Member's account balance
Plan administration	- PERB is the plan's board of trustees - Great West is the plan's recordkeeper - Educational Technologies Inc. will provide educational services for the initial transfer education. - Investment fund manager bids are still being evaluated

TABLE 9

UNIVERSITY SYSTEM OPTIONAL RETIREMENT PLAN
(As of June 30, 2000)

PLAN FEATURES	OPTIONAL RETIREMENT PROGRAM (ORP) (A Defined Contribution Retirement Plan)
Membership	All administrative, scientific, and instructional staff of the University System. (When PERS DC plan is operational, University System employees in PERS will have option of joining PERS DC plan *or* the ORP.) Active membership: 1,115
Retirement eligibility	A plan member may "retire" (i.e., access the ORP account) any time after service is terminated. There are federal tax penalties for withdrawal prior to age 59 1/2.
Benefit	An ORP member's benefit depends on total contributions to the member's individual account, plus investment earnings, minus administrative expenses. The ORP is administered by TIAA-CREF, which offers eight investment options.
Disability benefits	All University System employees are covered under a long-term disability insurance plan. The basic plan is entirely employer-paid and provides disability payments up to 60% of monthly earnings, offset against other income, such as pension benefits, social security, workers' compensation insurance, etc.
Death and survivor benefits	The full current value in a member's annuity account is payable to the beneficiary before retirement. The benefit can be paid in a single sum, as an annuity income to the beneficiary for life, or as an annuity income for a fixed period of years. The annuity may also be deferred as federal law permits.
Total payroll covered	$31,475,709
Employer contribution as a percentage of payroll	4.956%
Employee contribution as a percentage of salary	7.044%
Total contributions to member accounts	12%
Contribution to TRS for unfunded liability	3.73% on 7/1/00 4.04% on 7/1/01 (to be reviewed and possibly adjusted on 7/1/2033)

What Puts Stress on Retirement Systems?

- **Early Retirement Incentives** – Actuarial analysis of retirement plan obligations requires a projection of when employees will retire, based on past experience. Early retirement incentives, if they work, disrupt the pattern of retirement, causing employees to terminate sooner than anticipated. When employees terminate sooner, they collect benefits for a longer period of time than anticipated, at a greater cost to the retirement system than anticipated.

- **Increasing Hours for Working Retirees** – This causes two problems. First, if retirees can earn more salary in retirement, it is easier for them to retire; so increased working hours operates as a retirement incentive (see above explanation of greater costs). Second, the funding cycle is broken because retirees don't pay contributions into the retirement system. The funding of public retirement plans is based on a cycle. Retirees are generally replaced by new hires who will contribute into the retirement system. When this cycle is broken and the retiree is not replaced with a new hire, the pension trust fund doesn't receive expected income from contributions and the earnings on those contributions. An employers' decision to use working retirees is a management decision. The legislature's decision as an employer should be tempered by consideration of the impact on the retirement system.

- **Changing the Demographics of a System** – Projections of actuarial liabilities of a system are based on the demographics of the employees (such as age and years of service). A large change in the population of covered employees can adversely affect the valuation of the system. Such changes should not be undertaken without sufficient actuarial analysis.

- **Allowing Purchase of Service for Less Than Value** – The retirement benefit for a defined benefit plan is based on a formula. Generally the formula uses years of service and salary. As a member gets closer to retirement the ability to purchase years of service becomes very valuable. Purchasing service for less than its actuarial value means the purchase price is not sufficient to cover the added liability to the system.

- **Ad hoc Benefit Increases** – When benefit increases are given that are not a regular part of the retirement system, they are enormously costly. Regular and normal benefit increases are pre-funded, which allows investment earnings to pay for about 75% of the cost of the benefit increase.

- **Artificially Inflated Final Salaries** – Retirement benefits are based on the "high average compensation" (HAC) of employees. HAC inflated by employers with bonuses or pay increases to induce termination causes an artificial and unanticipated increase in the benefit payout by the retirement plan.

- **Delayed Funding** – When funding is delayed, investment earnings are lost for the period of time of the delay.

TEACHERS' RETIREMENT SYSTEM
PROPOSED FUNDING SOURCES

The contribution rate required to amortize the TRS unfunded liabilities as of July 1, 2005, will be available in early October, 2005, upon completion of the July 1, 2005 Actuarial Valuation. The following suggestions can and should be part of the solution to fund the TRS and to help keep the required employer contribution rate increase to a minimum.

- **Lump sum cash infusion to reduce the current unfunded liability**

  The Governor has suggested that part of the current budget surplus should be used to help reduce the unfunded liabilities of the TRS.

- **Close loopholes that create additional unfunded liabilities, e.g.**

  - End Of Career Pay Raises - Percentage or flat dollar increases are granted in the last 2 or 3 years of employment and in return, the TRS member gives notice they will retire. Montana's statutes are clear that these kinds of raises are not reportable to TRS, however to the extent these practices get past us, they contribute to the under funded problems of the system.

  - Bona Fide Separation From Service - Without a true termination and a break in service, the TRS is in danger of violating IRS restriction on in-service distributions. In addition, members who are rehired without any break in service raise questions regarding termination and eligibility for benefits. During any school year 500 – 600 retirees return to work in a part-time position, most only for a few days, but a few work the entire year in positions paying the maximum they can earn under TRS statutes, plus additional fringe benefits excluded from the definition of earned compensation under §19-20-101(6), MCA. Its entirely possible these "fringe benefits" could have been paid in cash before retirement and converted to non-reportable employer benefits after retirement. This practice resulting in benefits being paid before a member actually terminates and retires thus increasing the unfunded liabilities of TRS.

  - Benefit Swaps for Additional Salary – Adding salary to the contract in lieu of employer paid benefits for the purpose of enhancing a member's benefit is at the very least unethical and probably illegal. The TRS statutes clearly state that if an employer converts employer paid benefits, e.g. insurance or housing, to cash compensation that they must: one, do so for all employees, and converted benefits must be reported to the TRS for at least 5 years

before the additional earnings can be used in the calculation of average final compensation.

- **Eliminate the statutory minimum rate of interest that may be credited by the Board**

  Given market declines of the past few years, this rate should be set by the Board using a prudent standard related to market return. It is not reasonable to credit 4.0% interest, if the system is losing money, or making less than 4.0%.

- **Increase the Montana university system optional retirement program supplemental contribution rate**

  The University System's supplemental contribution rate must increase to ensure the University System's past service liability that existed when the ORP was created is fully amortized by July 1, 2033, as required by 19-20-621, MCA. This rate will be determined as part of the 2005 actuarial valuation.

- **Increase the employer contribution rate to fund the balance of the required rate increase not covered by the above changes**

  The cost savings of the above changes, if any, and the contribution rate increase necessary to actuarially fund the TRS will be included in the July 1, 2005 Valuation. This report will be available the first week in October.